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ABSTRACT

In 1984-85, the Computer Literacy and Word Processing Program for Bilingual Students at Evander Childs High School (Bronx, New York) was in the first year of a two-year, Title VII funding cycle. The major goal of the program is to improve the educational achievement and employability skills of 100 Hispanic, limited English proficient (LEP) student through elective courses in keyboarding, computer literacy, word processing, and automated accounting. Another group of about 50 English proficient students (who had participated previously in the school's tax-levy bilingual program) also participated on a volunteer basis. In addition to instruction, a number of supportive services were offered to program participants, including academic counseling, referral services, career and vocational guidance, individualized tutoring, and family contacts. In 1984-85, the project developed curriculum materials in Spanish and English, as well as materials for related work-study/work-readiness skills. Staff development and parent participation activities were also conducted. An evaluation of the 1984-85 year found that program objectives for student achievement and attendance were met and that the program is making satisfactory progress. Staff development activities to help teachers who experience difficulty in presenting business education content to Spanish-dominant students and in replicating the program to serve the school as a whole are recommended. (KH)

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EVANDER CHILDS HIGH SCHOOL

COMPUTER LITERACY AND WORD PROCESSING SKILLS FOR BILINGUAL STUDENTS

1984-1985

OEA Evaluation Report

O.E.A. Evaluation Section Report

Robert Tobias, Admininstrator of Evaluation
Judith S. Torres, Senior Manager

Grant Number: G00-842-5057

EVANDER CHILDS HIGH SCHOOL

COMPUTER LITERACY AND WORD PROCESSING

SKILLS FOR BILINGUAL STUDENTS

1984-1985

Principal:
Wilbur Klein

Project Director:
Vincent Saetta

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A SUMMARY OF THE REPORT

In its first year of a two-year funding cycle, the Computer Literacy and Word Processing Skills for Bilingual Students Program aimed to improve the educational achievement and employability skills of 100 students of limited English proficiency (LEP) in grades nine through twelve through elective courses in keyboarding, computer literacy, word processing, and automated accounting. Another group of 50 English-proficient students, who have previously participated in the school's tax-levy bilingual program, also participated on a voluntary basis.

The instructional approach was based on students' English proficiency: students who were least proficient in English were taught primarily in Spanish; students with greater proficiency were taught in English. In addition to receiving English as a second language (E.S.L.), native language arts, and bilingual content-area instruction, all students were enrolled in keyboarding classes conducted in English. A number of supportive services such as academic counseling, referral services, career and vocational guidance, individualized tutoring, and family contacts were also offered to program participants.

Title VII supported the administrative and support services staff. Instructional positions were funded by tax-levy dollars. Supplementary funding was provided by Chapter I. This year, the project developed curriculum materials in Spanish and English for use in all three levels of keyboarding classes, as well as materials for related work-study/work-readiness skills. Staff development activities included monthly department meetings and workshops, and monthly demonstration lessons for teachers in the use of computer hardware and software. Parents of program students participated in an advisory committee.

Program objectives were assessed in English language development (Criterion Referenced English Syntax Test [CREST] and the Regents Competency Test in reading); keyboarding skills (teacher-made tests); work-study/work-readiness skills (staff-developed examination); and attendance (school and program records). A quantitative analysis of students' achievement data indicates that:

--Overall, program students surpassed the proposed objective for CREST achievement by mastering 1.7 objectives per month in the fall and 1.6 objectives per month in the spring.

--Posttest scores on the Regents Competency Test in reading were significantly greater than the pretest scores.

--Passing rates for program students in keyboarding courses were significantly greater than those of mainstream students.

--There was a significant improvement between pretest and posttest scores on a staff-developed examination to test work-study/work-readiness skills.

--The attendance rate of the program students was significantly higher than the schoolwide rate.

The following recommendations are offered for possible improvement:

--Designing staff development activities for monolingual English-speaking teachers in the business education department who are experiencing difficulties teaching Spanish-dominant LEP students.

--Replicating the computer/technology services offered by the program to serve the school as a whole, and serving all departments through a commmon technology center.

ACKNOWLEDGEMENTS

The production of this report, as of all Office of Educational Assessment Bilingual Education Evaluation Unit reports, is the result of a cooperative effort of regular staff and consultants. In addition to those whose names appear on the cover, Margaret Scorza has reviewed and corrected reports, coordinated the editing and production process, and contributed to the quality of the work in innumerable ways. She has been assisted by Eulalia Cabrera who has integrated material into the reports and has written report summaries. Patricia Fitzpatrick has spent many hours creating, correcting, and maintaining data files. Finally, Joseph Rivera has worked intensively to produce, correct, duplicate, and disseminate reports. Without their able and faithful participation, the unit could not have handled such a large volume of work and still produced quality evaluation reports.

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EVANDER CHILDS HIGH SCHOOL

COMPUTER LITERACY AND WORD PROCESSING PROGRAM FOR BILINGUAL STUDENTS

Location:	800 Gun Hill Road, Bronx, New York 10467
Year of Operation:	1984-1985, first year of two-year cycle
Target Language:	Spanish
Number of Students:	150
Principal:	Wilbur Klein
Project Director:	Vincent Saetta

I. INTRODUCTION

The Computer Literacy and Word Processing Program for Bilingual Students at Evander Childs High School is in the first year of a two-year Title VII funding cycle. The major goal of the program is to improve the educational achievement and employability skills of 100 Hispanic limited English proficient (LEP) students through elective courses in keyboarding, computer literacy, word processing, and automated accounting. Another group of about 50 English proficient students who have participated previously in the school's tax-levy bilingual program also participates on a volunteer basis.

THE SCHOOL SITE

Evander Childs is a large urban high school located in the Northeast Bronx. Its setting is typical of outer borough areas of New York City. It is located in a neighborhood of one- and two-family homes situated in the middle of blocks whose corners are occupied by larger, multiple-story apartment buildings. The school building is a large

structure occupying an entire block on a wide avenue. Its exterior appearance is pleasant, with trees and a well-trimmed lawn in front, and its interior is clean and neat. One does not see an unusual profusion of guards and gates, or other evidence of overwhelming discipline problems.

DEMOGRAPHIC CHARACTERISTICS

The school has a total enrollment of nearly 3,300 students, of whom 63 percent are black, 33 percent are Hispanic, and the rest white or of other ethnic groups. It was reported that these figures generally reflect the demographics of the Northeast Bronx where, in recent years, there has been a significant northward migration of Hispanics from more southerly parts of the Bronx, as well as an increased immigration from Spanish-speaking countries.

The students at Evander Childs generally come from lower middle class families or from families of the working poor. About one third of these families receive federal assistance, and are eligible for the free lunch program. About 45 percent of the students in the school are two years below grade level in mathematics and English, as measured by standardized tests. These figures are typical of high schools in the Bronx, according to the project director.

The project director noted that 60 percent of the students enrolled in bilingual education programs in the school are foreign-born, and 40 percent are U.S.-born. The project director also pointed out that, in general, those students who have been in the United States longer do better in school. Those who have not been in this country for very long have a more difficult time in finding employment.

II. STUDENT CHARACTERISTICS

POPULATION SERVED

The program served a total of 150 students in the 1984-85 academic year. Virtually all the students were Hispanic and, according to the project director, about 94 percent were born outside the continental United States (see Table 1). Some program students have never been in a U.S. school before, but many come from schools in other parts of the Bronx, reflecting the steady northward migration of Hispanics toward the Northeast Bronx where the school is located.

Of the students enrolled in the Title VII program during the spring term, most were in the tenth grade. Fifty-two percent were overage for their grade placement (see Table 2), and all were new to the program in September.

LANGUAGE DOMINANCE

Based on results of the Language Assessment Battery (LAB) test, the Title VII program classifies students as follows:

Spanish-Dominant LEP Group. This includes those students who scored below the eleventh percentile on the English version of the LAB. These students are placed in content-area courses in which Spanish is used about 80 percent of the time. These students also receive instruction in English as a second language (E.S.L.).

English-Dominant LEP Group. This includes those students who scored between the eleventh and the twenty-first percentiles on the English

LAB. These students also receive both E.S.L. instruction and bilingual instruction in content-area courses, but the amount of Spanish used in bilingual instruction is reduced, and the amount of English use correspondingly increased, as compared to the Spanish-dominant group. This category is really a misnomer, as students who are below the twenty-first percentile on the LAB can hardly be called English-dominant.

English-Proficient Group. This group includes 50 Hispanic students who have previously participated in the school's tax-levy bilingual program and who participate in the program on a volunteer basis.

TABLE 1

Number and Percent of Program Students by Country of Birth

Language	Country of Birth	Number	Percent
Spanish	Puerto Rico	70	49
	Dominican Republic	34	24
	Central and South America	24	17
	United States	9	6
	Unknown	1	less than 1
Haitian Creole	Haiti	2	1
Other Middle Eastern	Other	2	1
Mandarin	Other	1	less than 1
	TOTAL	143	100

- Ninety-six percent of program students are reported to be native speakers of Spanish. The highest number of students in this group were born in Puerto Rico; the second highest number are from the Dominican Republic.

- Nine Spanish-speaking students were born in the United States.

TABLE 2

Number of Program Students by Age and Grade

Age	Grade 9	Grade 10	Grade 11	Grade 12	Total
14	2	1	0	0	3
15	7	12	0	0	19
16	7	28	4	0	39
17	10	18	11	2	41
18	1	12	9	1	23
19	1	3	6	1	11
20	0	1	2	1	4
22	0	1	0	0	1
TOTAL	28	76	32	5	141
Overage Students					
Number	19	35	17	2	73
Percent	68	46	53	40	52

Note. Shaded boxes indicate expected age range for grade.

- Fifty-two percent of program students are overage for their grade.
- The highest percentage of overage students is in grade nine (68 percent).

III. PROGRAM DESCRIPTION

GOALS

As stated, the program's primary goal is to improve the educational achievement and employability skills of the targeted students. The program's secondary goals include: staff development in computer operations, software selection, and application of computers to instruction; and curriculum development in Spanish and English in keyboarding and other occupation-related fields. Although funded for two years, the program is planned as a three-year sequence with keyboarding (electric typing) to be completed in the first two years, computer literacy and word processing to begin in year two, and automated accounting to begin in the third year of the program.

Specific objectives include facilitating students' academic achievement in English reading and writing, keyboarding skills, and mastery of work-study and work-readiness skills. In addition, the program aims to improve student attendance. Student achievement of these various objectives is discussed in appropriate sections of this report describing the instructional and non-instructional components of the program.

ORGANIZATION AND STAFFING

Figure 1 presents the organization of the program. The Title VII staff is comprised of a project director and an educational assistant. The project director is responsible for the overall operation of the program. He is a member of the principal's cabinet and is in contact with the foreign language department (which houses the high school's tax-levy bilingual program), the business department, and the guidance

counselor. He facilitates various activities such as: staff development and training in computer literacy; direct instruction to the program students in computer literacy on a regular basis; acquisition of printed materials and software in English and Spanish; and advocacy of the educational and occupational needs of LEP students to administrators and teachers. In sum, the Title VII project director serves as a resource person to the entire school in introducing computer courses and serving LEP students.

The project director has a master's degree in English and a doctorate in educational administration. He has 19 years' experience as a professional educator, and although he is not fluent in Spanish, he has ten years' experience with bilingual programs as well as in E.S.L. instruction.

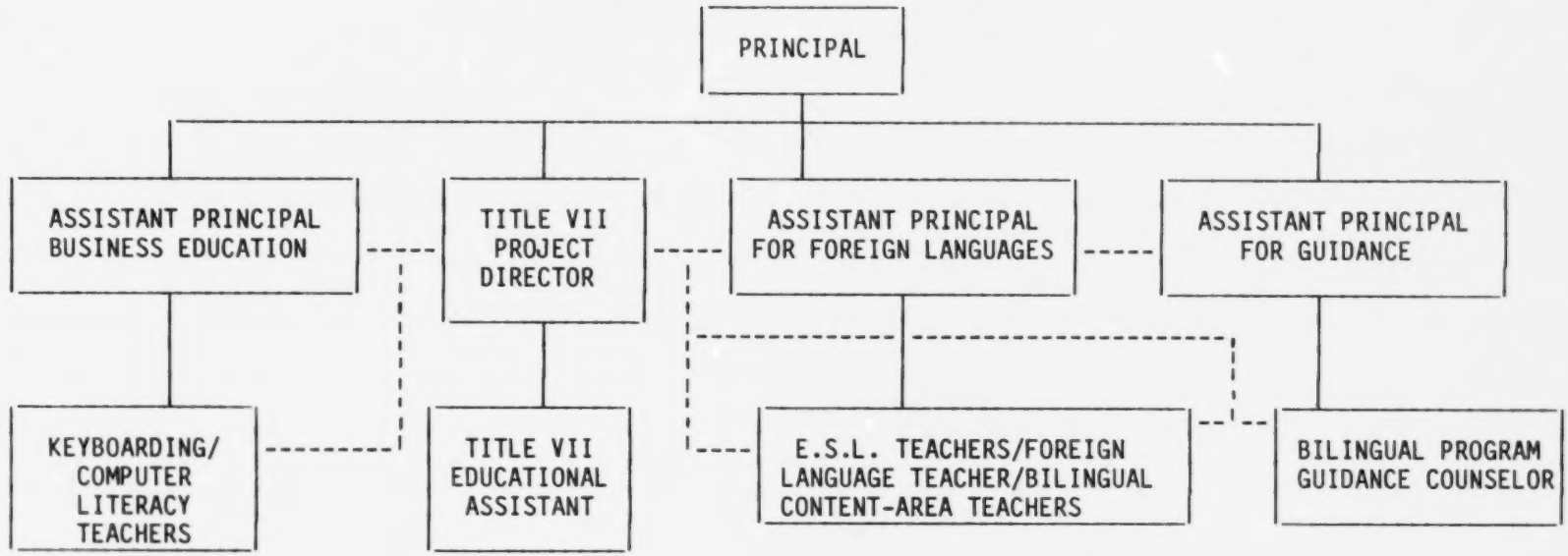
The educational assistant has an associate of arts degree and twelve years' experience in education.

Non-Title VII Personnel

Appendix A provides information on the experience and training of other staff serving the program students. It may be noted that, in general, the teaching and counseling staff have several years' experience in education and in bilingual education. All but two teachers hold master's degrees and all but two teachers (bilingual math and bilingual social studies) are certified in the subjects they teach.

FIGURE 1

Organizational Chart: Computer Literacy and Word Processing Skills Program


PRINCIPAL
ASSISTANT PRINCIPAL BUSINESS EDUCATION
TITLE VII PROJECT DIRECTOR
ASSISTANT PRINCIPAL FOR FOREIGN LANGUAGES
ASSISTANT PRINCIPAL FOR GUIDANCE
KEYBOARDING/ COMPUTER LITERACY TEACHERS
TITLE VII EDUCATIONAL ASSISTANT
E.S.L. TEACHERS/FOREIGN LANGUAGE TEACHER/BILINGUAL CONTENT-AREA TEACHERS
BILINGUAL PROGRAM GUIDANCE COUNSELOR

_____Direct Supervision

----------Cooperation and Communication

IV. FINDINGS

The evaluation findings are based on standardized test results, the examination of program materials and records, a site visit, and interviews with relevant personnel. Findings are reported in this section under the two categories of instructional and non-instructional objectives. Instructional objectives include improvement in academic skills, attendance, and job-related skills and knowledge. Non-instructional objectives include curriculum development, teacher training, and parental involvement.

INSTRUCTIONAL COMPONENT

Program students receive E.S.L., native language arts, keyboarding, mathematics, science, and social studies instruction. The program offers classes in algebra, biology, and history primarily in Spanish, and in English, and students are placed in the language in which they are dominant. Keyboarding classes are conducted in English. Tables displaying courses offered in fall and spring terms, with enrollment figures and other pertinent information can be found in Appendix B. Information regarding the accomplishment of specific instructional objectives within each instructional area is provided below.

E.S.L.

All project students are required to take one period of E.S.L. each day. Courses are offered in beginning, intermediate, and advanced levels. Placement at each level is determined by scores on the LAB and the CREST, and through consultation between the project director and

E.S.L. teachers. Support for E.S.L. instruction is provided through Chapter I and tax-levy funding.

A member of the evaluation team visited an intermediate E.S.L. class. The teacher used questions and summaries to review and reinforce selected E.S.L. skills. The students spent most of the time writing responses to the teacher's questions. The teacher used excellent illustrations of multiple choice formats and gave the students practice in test-taking while teaching grammer. In an interview after the lesson, the teachers explained that the lack of oral response on the part of some students was due to the fact that they were just beginning in E.S.L.

Two specific project objectives are directly related to the E.S.L. instructional program. Data on accomplishments for each of these objectives are reported below.

OBJECTIVE 1: Program students will demonstrate a meaningful improvement in their mastery of English syntax.

Students' improvement on this objective was measured by examining gain scores on the Criterion Referenced English Syntax Test (CREST), Levels I, II, and III for both fall and spring semesters. Students were expected to master at least one CREST objective per month within each semester of instruction.

Data were available for 121 students in the fall semester (85 percent of the total number of students) and 103 students in the spring (72 percent of the total number of students). Examination of Table 3 reveals that students mastered an average of approximately 1.7 CREST objectives per month in the fall and 1.6 CREST objectives per month in the spring. The program objective was achieved both semesters.

TABLE 3

Results of the Criterion Referenced English Syntax Test

Test Level	Number of Students	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Mastery* Mean	Mastery* S.D.	Mean Mastery Per Month
				Fall				
1	38	8.3	5.4	13.4	6.5	5.1	3.2	2.0
2	50	14.6	5.4	18.6	4.3	4.0	3.0	1.5
3	33	9.8	2.8	14.0	2.2	4.1	2.9	1.6
TOTAL	121	11.3	5.6	15.7	5.3	4.4	3.1	1.7
				Spring				
1	40	9.1	6.4	13.7	7.1	4.6	3.0	1.6
2	42	12.1	6.7	17.2	5.8	5.1	3.7	1.9
3	21	11.6	2.7	14.1	1.5	2.5	2.1	0.9
TOTAL	103	10.8	6.1	15.2	6.0	4.4	3.2	1.6

*Posttest minus pretest.

•Overall, the program objective was surpassed both semesters.

OBJECTIVE 2: Program students will demonstrate a significant improvement ($p < .05$) in their English language reading ability.

Student achievement on these objectives was measured by examining the difference between pre- and post-scores on the Regents Competency Test (R.C.T.) in reading administered in both the fall and spr ng semesters. In accordance with the project's stated objective of achieving statistically significant gains on the posttest mean, the data were analyzed using the correlated t-test model.

Table 4 presents the analysis of all program students for whom pretest and posttest scores were available. Posttest reading scores were found to be significantly greater ($p.<.01$) than pretest scores. The project objective in reading was met.

TABLE 4

Results of the Regents Competency Test in Reading

Grade	Number of Students	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Gain Mean	Gain S.D.	Proportion Making Gains
9	20	20.3	9.2	32.9	10.0	12.6	4.2	100%
10	57	31.9	12.1	42.8	12.3	11.0	3.7	100%
11	24	33.6	12.1	46.6	9.7	13.0	4.5	100%
12	3	39.7	9.3	50.0	4.3	10.3	5.0	100%
TOTAL	104	30.3	12.5	42.1	12.0	11.8**	4.2	100%

**Statistically significant at the .01 level.

Keyboarding Skills

OBJECTIVE 3: A significantly greater proportion of program students will earn passing grades in Keyboarding I and Keyboarding II courses during the fall and spring semesters compared to a randomly selected group of mainstream students.

Keyboarding courses were offered at three levels in both the fall and spring. Since bilingual materials were not yet ready for use by the Spanish-dominant students in the fall, these students were enrolled in mainstream keyboarding classes and in such specialized courses as data processing, electronics, and electrical shop. Keyboarding I skills training for program students began in the spring. A description of these courses is included as Appendix B.

A member of the evaluation team observed two keyboarding classes. The first class, which contained ten program students, reviewed double-spacing on manual typewriters. All instruction was in English. A second class reviewed the typing of different parts of a business letter. Five students were from the bilingual program. All instruction was in English and the students appeared able to follow the teacher's instructions. Interviews with both teachers revealed that they were concerned with communicating with the LEP students, their ability to attend to students' educational needs, and the students' ability to be understood. In most cases, teachers referred difficulties to the bilingual guidance counselor.

The project director felt that the Title VII program helped overcome the obstacles caused by the large size of the keyboarding classes and the lack of special materials for LEP students by providing the funds

for materials acquisition and adaptation. He also stated that specialized training was needed for members of the business education department who have the expertise in keyboarding and computer-instructional activities, but lack the language skills necessary to communicate with the LEP students.

At the end of the spring semester, a Spanish teacher with knowledge of keyboarding and other computer-related skills was identified to teach three keyboarding and two computer classes during the 1985-86 school year. Support for this individual will also come from a recently allocated paraprofessional who is familiar with keyboarding skills.

Student Achievement in Keyboarding Skills

Table 5 presents the passing rates for program and mainstream students in keyboarding courses each semester. Statistical significance of the difference between program and mainstream passing rates was determined through a z-test for the significance of a proportion.* This procedure tests whether the difference between a group's rate and a standard rate (the rate of the total population) is greater than can be expected by chance variation.

Examination of Table 5 reveals that a significantly greater proportion ($p.<01$) of program students earned passing rates in the fall and spring semesters compared to mainstream students. The objective was thus met.

*Bruning, J.L. and Kintz, B.L.; Computational Handbook of Statistics; Scott, Foresman and Company, 1968.

TABLE 5

Passing Rates for Program and Mainstream Students in Keyboarding Courses

Keyboarding	Bilingual Program Number of Students	Bilingual Program Percent Passing	All Classes Percent Passing	z-test Value
Fall	84	100	73	5.60**
Spring	85	100	82	4.32**

**Statistically significant at the .01 level.

Work-Study and Work-Readiness Skills

OBJECTIVE 4: Program students will demonstrate a meaningful improvement in their mastery of work-study and work-readiness skills. This improvement will be assessed by examining differences between staff-developed pretest scores in the fall semester, and staff-developed posttest scores in the spring semester.

A staff-developed test was used to assess achievement in this area. Students were pretested in the fall and posttested in the spring. One hundred questions were included on the pretest (Form A); the same 100 questions were used for the posttest (Form B) with a slight change in format. Test items included using the newspaper and agencies to find employment, writing business letters and resumes, and interview techniques and behaviors.

Table 6 provides a comparison between pretest and posttest scores on this instrument. There was a significant improvement between both testing periods. The program objective was therefore achieved.

TABLE 6

Results of a Staff-Developed Test to Assess Work-Study/Work-Readiness Skills

Number of Students	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Gain Mean	Gain S.D.
102	57.8	16.2	78.7	13.6	20.9**	6.1

**Statistically significant at the .01 level.

NON-INSTRUCTIONAL COMPONENT

The main activities of program staff outside the classroom include the development of curriculum materials, staff training, parental involvement, and supportive services aimed at enhancing students' career awareness and attendance.

Curriculum Development

OBJECTIVE 5: As a result of the Title VII curriculum specialist's participation in curriculum development and implementation of Keyboarding I and Keyboarding II courses, 100 percent of the Keyboarding I and Keyboarding II courses of study will be implemented and completed during the first year of the project. (Similar objectives apply to the work-study and work-readiness skills units.)

To achieve the above objective, the program director was instrumental in providing direct instruction to the target population in computer literacy on a regular basis (with a computer that is wheeled into classrooms), acquiring computer software and resource materials in English and Spanish. Specifically, materials were adopted in Spanish and English for use in all three levels of keyboarding classes. These materials were all parallel to those used in mainstream classes. Other instructional materials for related work-study and work-readiness skills included such items as Mecanografia Siglo 21, Machine Transcription, and word processing.

The achievement of these objectives was well under way in the second semester of the program, and it appears that this momentum will continue for the project's second year.

Staff Training

OBJECTIVE 6: One hundred percent of the teacher training workshop meetings will have specific high technology courses of study development plans and activities, and work-study/ work-readiness skills units course of study development and implementation plans and activities for the infusion process during the first project year.

Staff training activities included: monthly departmental meetings; monthly workshops conducted by the project director, other staff, and invited guest speakers; and monthly demonstration lessons for teachers in the use of computer hardware and software with the aim of raising the awareness of both administration and staff to the potential of high technology in education.

A complete listing of staff development activities held in and outside the school are included as Appendix C.

OBJECTIVE 7: As a result of the participation of the project director and the curriculum specialist in the development and implementation of a teacher training center component in the program, 75 percent of the identified staff participants will attend more than 75 percent of the workshop meetings during the second year.

Attendance for the Evander Childs High School on-site training program was reportedly very high: over 75 percent of the staff from the bilingual program participated in activities devoted to the introduction of the microcomputer in education. Attendance was documented through payroll rosters, sign-in sheets, and time cards. The program objective was met.

Parental Involvement

OBJECTIVE 8: As a result of the participation of the project director and curriculum specialist in the development and implementation of a parental involvement workshop component of the program, 100 percent of the workshop meetings will have specific high technology courses of study development and implementation plans and activities for the infusion process in which they can contribute during the first project year, and at least 75 percent of the participants will attend more than 75 percent of the workshop meetings during the first project year.

According to the project director, parents of program students were informed about available workshops in computer training through letters and phone calls. Unfortunately, due to employment obligations and familial responsibilities, most were unable to attend. The program objective was therefore not met.

The program's Parent Advisory Committee met two times each semester to discuss program-related issues. These meetings were attended by the project director, the guidance counselor, three bilingual program teachers, and the educational assistant. Parent attendance figures were not available.

Student Attendance

OBJECTIVE 9: The attendance rate of program students will be significantly higher than the school-wide attendance rate each semester.

As part of its overall design to address the educational and training needs of LEP students, the bilingual guidance counselor offers supportive strategies to staff and students. The different activities of the bilingual guidance counselor include assisting in the areas of career interest and aptitude testing, as well as work-readiness and work-study skills.

In addition to the services of the bilingual guidance counselor, students receive personal, academic, and career advisement, as well as referrals and tutoring from various staff members.

A listing of all the supportive services provided to program students is included as Appendix D. A review of these activities reveals that a systematic and sensitive process was in place at Evander Childs to achieve the performance goal of higher attendance among LEP students.

The project director reported that 40 students left the program during the academic year. Twenty-four students were fully mainstreamed, 13 transferred to another school, and three returned to their native country.

Attendance Outcomes. Since the school's attendance rate includes the attendance of program students, statistical significance between program and school attendance was determined through the application of

a z-test for the significance of a proportion.* This procedure tests whether the difference between one proportion (the program's attendance) and a standard proportion (the school's attendance) is greater than what can be expected by chance variation.

The attendance rate for program students was 90.79 percent, approximately 17 percentage points above the schoolwide attendance rate (73.92 percent). The z-test results ($z=4.56$) indicated that the difference in attendance rates was statistically significant ($p<.01$). The program objective was thus met.

*Bruning, J.L. and Kintz, B.L.; Computational Handbook of Statistics; Scott, Foresman and Company, 1968.

V. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

In its first year of operation, the Computer Literacy and Word Processing Skills for Bilingual Students program is making satisfactory progress toward achieving its objectives. Except for normal start-up problems and constraints that are unique to computer learning, LEP students are enrolled in keyboarding electives. The project director has initiated procedures for staff development, and curriculum materials adaptation and translation efforts have produced several documents.

Preparations to strengthen the program in its second year are well under way. A Spanish teacher and educational assistant have been hired to provide keyboarding and word processing classes for LEP students in the fall of 1985.

The program's strengths lie in a committed director and the full and active support of the school administration.

RECOMMENDATIONS

The following recommendations are aimed at improving the overall effectivenes of the program:

1. Staff development activities might include educational strategies to help those teachers in the business education department who experience difficulty in presenting content to Spanish-dominant students. Although the hiring of a Spanish instructor for next year will alleviate this

problem somewhat, the matter of meaningful communication will always remain. One strategy might include pairing English-speaking students with LEP students for peer tutoring sessions on the computer.

2. Given the school administration's commitment to high technology, it might consider ways of replicating the program to serve the school as a whole. It might be more productive for all departments to be served through a common technology center within the school.

VI. APPENDICES

APPENDIX A

Staff Characteristics: Professional and Paraprofessional Staffs

Title/Function Note: Please do not include names	Percent Time in Each Function	Education (Degrees)	Is person licensed or certified for this title/function? (Y/N/NA)	Total Yrs. Experience Education	Years Relevant Experience Bilingual/E.S.L./ Foreign Language
Project Director/Curriculum Spec.	20%/80%	BA,MA,PROF.DIP,PH.D.	NA	19	10
Educational Assistant/Secretarial	80%/20%	AA (19 credits)	Y	12	12
A.P. Foreign Language	100%	BA,MA	Y	14	14
Ch.I ESL Teacher	100%	BA,MA	Y	12	12
Ch.I. ESL Educational Assistant	100%	BA	Y	11	11
Tax Levy ESL Teacher	100%	BA	Y	10	10
Bilingual Soc.Studies Teacher	40%	BA, MA	N	8	8
Bilingual Math Teacher	40%	BA, MA	N	9	9
Bilingual Biology Teacher	40%	BA, MA	Y	21	21
Native Language Arts Teacher	40%	BA, MA	Y	16	16
Native Language Arts Teacher	20%	BA, MA	Y	8	8
Native Language Arts Teacher	20%	BA, MA	Y	17	17

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Title/Function	Percent Time	Education (Degrees)	Licensed/Certified (y/n/na)	Total Exp.	Years Relevant Experience
Keyboarding Teacher AT11-1 AT11-2	40%	BA, MA	Y	12 yr.	1 yr.
Keyboarding Teacher AT11-3 AT11-6	40%	BA	Y	6 yr.	1 yr.
Keyboarding Teacher AT12-1	20%	BA, MA	Y	18 yr.	1 yr.
Keyboarding Teacher AT21-2	20%	BA, MA	Y	17 yr.	1 yr.
Keyboarding Teacher AT31-1	20%	BA, MA	Y	19 yr.	1 yr.

Note: Most Title VII target population are in these keyboarding classes. Few are in other keyboarding classes not listed here. Programming considerations and time constraints had to be considered in program placement.

APPENDIX B

Instruction in English as a Second Language and English Reading (Fall)

Course Title & Level (Do not use school codes)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Periods Per Day	Course Description	Curric.*	Texts/Materials in Use
Ch.I. ESL Beginning	2	0	2	60	60	1	phonetic activities and morphological structures	c/t	Refer to pages
Ch.I. ESL Intermediate	2	0	2	59	59	1	continued above, readings and writing exercises	c/t	1, 2, 3, and 7
Ch.I ESL Advanced	1	0	1	18	18	1	functional grammar, transformation, reading, writing	c/t	for all ESL
TaxLevy ESL Beginning	2	0	1	30			reading for main idea, paragraph development	c/t	instructional
TaxLevy ESL Intermediate	2	0	0	59			reading for inference, composition writing	c/t	materials.
TaxLevy ESL Advanced	1	0	0	18			reading for critical thinking report writing	c/t	

Instruction in English as a Second Language and English Reading (Spring)

Course Title & Level (Do not use school codes)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Periods Per Day	Course Description	Curric.*	Texts/Materials in Use
Ch.I ESL Beginning	2	0	2	45	45	1	oral practice and written word structure, reading	c/t	Refer to pages
Ch.I ESL Intermediate	2	0	2	54	54	1	parts of words and sounds context clues, semantics	c/t	1, 2, 3, and 7 for
Ch.I ESL Advanced	1	0	1	23	23	1	syntactic activities, sentence development, read	c/t	all instructional
TaxLevy Beginning	2	0	1	45			reading of literature, reading and writing skills	c/t	materials.
TaxLevy Intermediate	2	0	0	54			reading of literature, inferential reading, writing	c/t	
TaxLevy Advanced	1	0	0	23			reading of literature, composition and reports	c/t	

*Curriculum codes: C = NYC Curriculum T = Textbook Curriculum O = Other Curriculum
S = NYS Curriculum P = Program-developed Curriculum

Note: Most students enrolled in the Chapter 1 ESL classes are enrolled in the Tax Levy ESL classes.

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Instruction in the Native Language(s) (Fall)

Course Title & Level (Do not use school codes)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Periods Per Day	Course Description	Curric.*	Texts/Materials in Use
Native Language Arts Inter.	1	0	0	31	21	1	emphasis on oral work and structures, city-wide prep	c/t	Refer to pages
Native Language Arts Inter.	1	0	0	36	33	1	emphasis on reading and writing, regents prep.	c/t	4, 7, 8 and 9
Native Language Arts Adv.	1	0	0	32	26	1	emphasis on reading of literature, composition	c/t	for all instructional materials.
Native Language Arts NS	1	0	0	31	27	1	emphasis on improving phonics skills, writing skill	c/t	

Instruction in the Native Language(s) (Spring)

Course Title & Level (Do not use school codes)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Periods Per Day	Course Description	Curric.*	Texts/Materials in Use
Native Language Arts Inter.	1	0	0	25	22	1	emphasis on oral work and structures, city-wide prep	c/t	Refer to pages
Native Language Arts Inter.	1	0	0	33	32	1	emphasis on reading and writing, regents prep.	c/t	4, 7, 8 and 9
Native Language Arts NS	1	0	0	31	27	1	emphasis on improving phonics skills, reading comprehension	c/t	for all
Native Language Arts Adv.	1	0	0	21	11	1	emphasis on reading liter ature, composition followup	c/t	instructional materials.

*Curriculum codes: C = NYC Curriculum T = Textbook Curriculum O = Other Curriculum
S = NYS Curriculum P = Program-developed Curriculum

Note: Most students in the total register of the NLA classes are included in the Title VII Project target population.

Bilingual Instruction in Subject Areas (Fall Semester)

Course Title & Level (Do not use school codes)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Percent of Eng. Used	Course Description	Curric.*	Texts/Materials in Use
Biology I (Spanish Dom.)	1	0	0	35	35	20%	Life Sciences, Units I-IV	c/t	Page 4
Global History (Spanish)	1	1	0	37	37	20%	History of all cultures	c/t	Pages 3 and 4
Algebra (Spanish Dom.)	1	1	0	33	33	20%	Algebra, Units I-X	c/t	page 4
BiologyI (English Dom.)	1	0	0	40	40	80%	Life Sciences, UnitsI-IV	c/t	Page 4
Global History (Eng.Dom.)	1	1	0	45	45	80%	History of all cultures	c/t	Pages 3 and 4
Algebra (Eng.Dom.)	1	1	0	38	38	80%	Algebra, Units I-X	c/t	Page 4

Bilingual Instruction in Subject Areas (Spring Semester)

Course Title & Level (Do not use school codes)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Percent of Eng. Used	Course Description	Curric.*	Texts/Materials in Use
Biology II (Span.Dom.)	1	0	0	33	33	20%	Life Sciences, Units V-X	c/t	Page 4
American Hist. (Spah.Dom.	1	1	0	32	32	20%	American Government Series	c/t	Pages 3 and 4
Algebra (Span.Dom.)	1	1	0	30	32	20%	Algebra, Units XI-XX	c/t	Page 4
Biology II (Eng.Dom.)	1	0	0	29	29	80%	Life Sciences, Units V-X	c/t	Page 4
American Hist. (Eng.Dom.)	1	1	0	33	33	80%	American Government Series	c/t	Pages 3 and 4
Algebra (Eng.Dom.)	1	1	0	31	31	80%	Algebra, Units XI-XX	c/t	Page 4

*Curriculum codes: C = NYC Curriculum T = Textbook Curriculum O = Other Curriculum
S = NYS Curriculum P = Program-developed Curriculum

Note: Students in the Spanish Dominant classes are the same population in Biology II, American History, and Algebra. Students in the English Dominant classes are the same population in Biology II, American History, and Algebra.

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Specialized Courses (Fall Semester)

Course Title (track &/or level)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Percent of Eng. Used	Course Description	Curric.*	Texts/Materials in Use
Keyboarding Intro.	4	0	0	109	69	100%	Develop alpha-numeric keyboard-skills, Typewriting Applica.	c/t	Refer to pages
Keyboarding Inter.	3	0	0	91	32	100%	Develop alpha-numeric keyboard-ing skills, Typewriting Applic.	c/t	9, 10, and 11
Keyboarding Adv.	2	0	0	62	11	100%	Develop alpha-numeric keyboard-ing skills, Typewriting Applic.	c/t	for all instruction

Specialized Courses (Spring Semester)

Course Title (track &/or level)	No. of Classes	No. Taught Out of License	No. of Classes with Para.	Total Register	Title VII Register	Percent of Eng. Used	Course Description	Curric.*	Texts/Materials in Use
Keyboarding Intro.	4	0	0	114	72	100%	Apply keyboarding skills to computer input skills	c/t	Refer to pages
Keyboarding Inter.	3	0	0	84	39	100%	Apply keyboarding skills to computer input skills	c/t	9, 10, and 11
Keyboarding Adv.	2	0	0	59	9	100%	Apply keyboarding skills to computer input skills	c/t	for all instruction-
									al materials.

*Curriculum codes: C = NYC Curriculum T = Textbook Curriculum O = Other Curriculum
S = NYS Curriculum P = Program-developed Curriculum

Note: All students in the keyboarding classes are programed for these mainstream elective courses. 120 of these students are part of the Title VII Project.

APPENDIX C

Staff Development Activities in School

Strategy	Description(s), Goals, or Titles	Staff Attending No.	Staff Attending Title(s)	Speaker or Presenter	Frequency or Number of Sessions
Dept. Meetings and Work Shops	Bilingual Education	1	Biology Teacher	Dr. Saetta	1 Department Meeting per Month
	Career Infusion	1	Social Studies Teach.	Mr. Serina	1 Work Shop Meeting Afterschool per Mont
	Keyboarding Skills	1	Math Teacher	Monroe Business Institute	All staff identified in "Staff
	Computer Assisted Inst.	3	NLA Teachers	Hostos Community College	Attending" section participated
	IBM Computer Operations	3	Keyboarding Teachers	Teachers College (Columbia	in department and work shop
	Tandy 1000 Computer Oper.	2	ESL Teachers	IBM Staff	meetings each month.
	Selected Software	2	Educational Assist.	Tandy Corp. Staff	
	Formatting and Backup				
	Copies				
Computer Workshop	Programming in BASIC	33	All Departments	Bronx Technical Assistance Computer Center Staff	15 weeks of intensive training in in TRS80 Computer Lab. 8 Bilingual Staf
Other: demonstration lessons, lectures, etc.		2	ESL Teachers	Dr. Saetta	These demonstration lessons include
		3	NLA Teachers	Dr. Saetta	the use of Tandy 1000 and IBM PC
		3	Keyboarding Teach.	Dr. Saetta	hardware and peripherals. Teachers participated in the process.
					Dr. Saetta had students participate directly hands-on inthese activities.

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Staff Development Activities Outside School

Strategy	Description(s), Goals, or Titles	Sponsor/Location	Speaker or Presenter	Frequency/ Number of Sessions	Staff Attending	
					No.	Title(s)
Workshops held outside school (list)	Monroe Business Institute	Fordham Rd. Bx. N.Y.	Computer Staff	3	8	Proj.Dir., Teachers
	Hostos Community College	Grand Concourse, Bx.,N.Y.	Computer Staff	1	6	Proj.Dir., Teachers
	Teachers College, Columbia U	Manhattan, N.Y.	Cameo Computer Staff	2	7	Project Dir.,Teachers
	IBM Corporation	Manhattan, N.Y.	Computer Staff	2	5	Proj.Dir., Teachers
Conferences and symposia (list)	Board of Ed. Computer Unit	Brooklyn, N.Y.	Computer Staff	5	4	Project Dir.,Teachers
	Bronx Technical Assistance Ct.	Bronx, N.Y.	Computer Staff	6	5	Proj.Dir.,A.P.,Teachers
	Apple Corporation	Manhattan, N.Y.	Computer Staff	1	3	Proj.Dir., Teachers
	Sonocraft Corporation	Manahattan, N.Y.	Computer Staff	1	7	Proj.Dir., Teachers
Other	New York Coliseum Computer Expo	Manhattan, N.Y.	Computer Industry Staff	1	4	Proj.Dir.,A.P.,Teachers
	UNIXEXPO Operating Systems	Manhattan, N.Y.	Computer Industry Staff	1	4	Proj.Dir.,A.P.,Teachers

APPENDIX D

TYPE OF SERVICE	STAFF PERSON(S) RESPONSIBLE	FREQUENCY* OF SERVICE OFFERED	LANGUAGE IN WHICH SERVICE IS OFFERED
COUNSELING	Ray Serina, Guid.Couns. Stephanie Lessem,A.P. FL Dr. V. Saetta, Title VII	weekly monthly monthly	Spanish/English Spanish/English Spanish/English
• ACADEMIC			
• PERSONAL	Ray Serina, Guid.Couns.	weekly	Spanish/English
• CAREER ORIENTATION	Ray Serina, Guid.Couns. Dr. V. Saetta, Title VII	monthly monthly	Spanish/English Spanish/English
• COLLEGE ADVISEMENT	Ray Serina, Guid.Couns. Dr. V. Saetta, Title VII	monthly monthly	Spanish/English Spanish/English
• INDIVIDUAL	Ray Serina, Guid.Couns.	as needed	Spanish/English
• GROUP	Ray Serina, Guid.Couns. Dr. V. Saetta, Title VII	monthly monthly	Spanish/English Spanish/English
REFERRALS	Ray Serina,Guid.Couns.	as needed	Spanish/English
• IN-SCHOOL	All staff	as needed	Spanish/English
• OUT-OF-SCHOOL	Agencies and Schools	as needed	Spanish/English
CAREER/VOCATIONAL	Ray Serina,Guid.Couns. Dr. V. Saetta	monthly monthly	Spanish/English Spanish/English
• PLACEMENTS			
• TRAINING	Dr. V. Saetta, Title VII	monthly on-going	English
• LABORATORIES	Dr. Saetta, Title VII	monthly	Spanish/English
• CAREER INFUSION	All Staff	monthly	Spanish/English
• ADVISEMENT	Ray Serina, Guid.Couns. Dr. Saetta, Title VII	monthly monthly	Spanish/English Spanish/English
TUTORING	Gregorio Velazquez (ASPIRA Coordinator)	weekly	Spanish/English

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TYPE OF SERVICE	STAFF PERSON(S) RESPONSIBLE	FREQUENCY* OF SERVICE OFFERED	LANGUAGE IN WHICH SERVICE IS OFFERED
FAMILY CONTACTS	Project Continue Staff	as needed	Spanish/English
◦ HOME VISITS			
◦ TELEPHONE	Awilda Solano,TitleVII Project Continue Staff	weekly weekly	Spanish/English Spanish/English
◦ MAIL	Dr. Saetta,Title VII Stephanie LessemAF FL Ray Serina,Guid.Couns.	semisemester semisemester monthly	Spanish/English Spanish/English Spanish/English
◦ PROGRAM ACTIVITIES	Dr. Saetta,Title VII Ray Serina,Guid.Couns.	monthly monthly	Spanish/English Spanish/English
◦ SCHOOL ACTIVITIES	Dr. Saetta,Title VII Stephanie Lessem,AF FL	monthly monthly	Spanish/Englisn Spanish/English
PARENT INVOLVEMENT ◦ CLASSES	All staff instructing bilingual and special career courses. Title VII staff	semisemester	Spanish/English
◦ WORKSHOPS	Dr. V. Saetta,Title VII	monthly	Spanish/English
◦ ADVISORY COMMITTEE	Dr. Saetta,Title VII	monthly when possib.	Spanish/English